



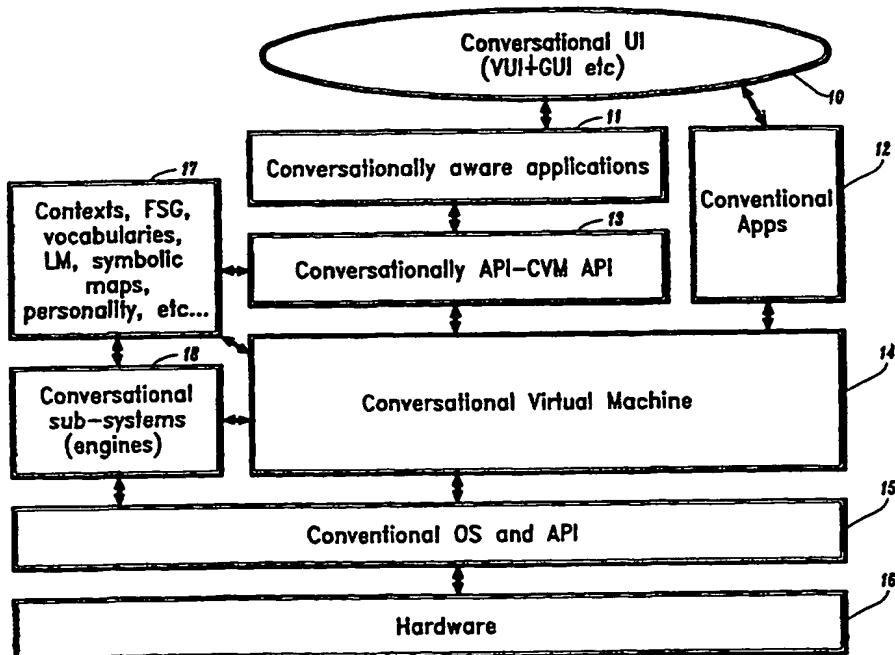
## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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(71) Applicant (for all designated States except US): INTERNATIONAL BUSINESS MACHINES CORPORATION [US/US]; Old Orchard Road, Armonk, NY 10504 (US).		
(72) Inventors; and		(Published) With international search report.
(75) Inventors/Applicants (for US only): COFFMAN, Daniel [US/US]; Barrett Circle, Carmel, NY 10512 (US). COMERFORD, Liam, D. [US/US]; 54 Valley Road, Carmel, NY 10512 (US). DEGENNARO, Steven, V. [US/US]; 38 Coulter Avenue, Carmel, NY 10512 (US). EPSTEIN, Edward, A. [US/US]; 219 Canopus Hollow Road, Putnam Valley, NY 10579 (US). GOPALAKRISHNAN, Ponani [IN/US]; 3073 Radcliff Drive, Yorktown Heights, NY 10598 (US). MAES, Stephane, H. [BE/US]; 1 Wintergreen Hill Road, Danbury, CT 06811 (US). NAHAMOO, David [IR/US]; 12 Elmwood Road, White Plains, NY 10605 (US).		
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(54) Title: CONVERSATIONAL COMPUTING VIA CONVERSATIONAL VIRTUAL MACHINE

## (57) Abstract

A conversational computing system that provides a universal coordinated multi-modal conversational user interface (CUI) (10) across a plurality of conversationally aware applications (11) (i.e., applications that "speak" conversational protocols) and conventional applications (12). The conversationally aware applications (11) communicate with a conversational kernel (14) via conversational application APIs (13). The conversational kernel (14) controls the dialog across applications and devices (local and networked) on the basis of their registered conversational capabilities and requirements and provides a unified conversational user interface and conversational services and behaviors. The conversational computing system may be built on top of a conventional



operating system and APIs (15) and conventional device hardware (16). The conversational kernel (14) handles all I/O processing and controls conversational engines (18). The conversational kernel (14) converts voice requests into queries and converts outputs and results into spoken messages using conversational engines (18) and conversational arguments (17). The conversational application API (13) conveys all the information for the conversational kernel (14) to transform queries into application calls and conversely convert output into speech, appropriately sorted before being provided to the user.

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## INTERNATIONAL SEARCH REPORT

International application No.

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**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(7) : G10L 9/06; G06F 9/00

US CL : 345/326; 709/328

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 345/326; 709/328

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WEST; EAST; ACM; MSDN

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A,P	US 5,884,266 A (DVORAK) 16 MARCH 1999, ALL	1, 5-8
A	US 5,794,205 A (WALTERS ET AL) 11 AUGUST 1998, ALL	1, 5-8
A	US 5,283,888 A (DAO ET AL) 01 FEBRUARY 1994, ALL	1
A	US 5,133,004 A (HEILEMAN JR. ET AL) 21 JULY 1992, ALL	1, 5-8, 16
A	US 5,255,305 A (SATTAR) 19 OCTOBER 1993, ALL	1

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Box PCT  
Washington, D.C. 20231

Authorized officer

ALVIN OBERLEY

Facsimile No. (703) 305-3230

Telephone No. (703) 305-8716

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